NO FURTHER ACTION DETERMINATION

The U. S. Department of Energy, U. S. Environmental Protection Agency-Region 10, and the State of Idaho have completed a review of the referenced information for TRA-02(OU 1-14) hazardous site, as it pertains to the INEL Federal Facility Agreement of July 22, 1991. Based on this review, the Parties have determined that no further action for purposes of investigation or study is justified. This decision is subject to review at the time of issuance of the Record of Decision.

Brief Summary of the basis for no further action:

See attached Decision Statement

References:

See attached Decision Statement

DOE Project Manager Lisa A Green for Jerry Lyle 9/13/91
date

EPA Project Manager Wayne N Pierre 9/13/91
date

IDAHO Project Manager [signature] 9/13/91
date

DECISION DOCUMENTATION COVER SHEET

prepared in accordance with

GUIDANCE FOR ASSESSING
LOW PROBABILITY HAZARD SITES
AT THE INEL

Site description: Paint Shop Ditch

Site ID: COCA Unit TRA-02

Operable Unit: OU-1A

Waste Area Group: WAG 2 - TRA

I. SUMMARY - Physical description of the site:

The TRA-02 Paint Shop Ditch is located adjacent to the west end of the maintenance and storage building (TRA-662) at the Test Reactor Area (TRA). The unit is situated around a ditch which was originally constructed to provide for storm water run-off along Whitefish Avenue.

The TRA-02 Paint Shop Ditch is located on alluvial sediments composed of layered sands and gravels that are poorly sorted and contains little fine grained materials. The alluvial layer in the vicinity of the Paint Shop Ditch extends down to a depth of 47 feet to basalt. There is typically no free standing water in the ditch due to the permeability of these alluvial materials and the semiarid climate at the Idaho National Engineering Laboratory (INEL).

Waste was generated and disposed at the TRA-02 Paint Shop Ditch as part of operations of the paint shop located the west section of building TRA-662 presently used for maintenance and storage. The TRA-02 Paint Shop Ditch was used for disposal of paint wastes from 1957 to 1982. Paint shop personnel disposed waste solvents used to clean painting equipment in the ditch immediately adjacent to Whitefish Avenue.

Laboratory analysis of samples at the TRA-02 Paint Shop Ditch indicate that only minor migration of contaminants occurred during paint shop operations. Analytical data from representative samples collected at the site indicate that constituent soil concentrations do not pose a threat to human health.

Site description: Give a brief description and/or common name for the site, and its physical location.

Site ID: IAG site code.

Operable Unit: Identify the OU based on WAG information. An operable unit may consist of many sites.

Waste Area Group: WAGs are denoted by numbers 1 to 10;

I. SUMMARY - Physical description of the site: Summarize the series of answers for columns 1 to 3 on the process/waste worksheet. This portion of the worksheet is intended to be a summary of information, NOT the information itself.

DECISION RECOMMENDATION

See 6.2.2; Fig 7

II. SUMMARY - Qualitative Assessment of Risk:

The level of reliability of the information collected is high, and the qualitative assessment of risk is low.

III. SUMMARY - Consequences of Error:

If no further action is taken and undetected hazardous constituents exist at the unit there may be the potential for exposure of individuals digging in the area to increased levels of constituents described in this report. Analysis of Laboratory samples have indicated that overall soil concentrations have not increased significantly as a result of disposal of paint wastes at the TRA-02 Paint Shop Ditch. Solidified paint residue were redistributed throughout an estimated volume of 259 m^3 of soil. This is an estimate of the material which was disturbed and may contain solidified paint residue.

IV. SUMMARY - Other Decision Drivers:

There are no other decision drivers for this unit.

Recommended action:

The TRA-02 Paint Shop Ditch should be reclassified to "no action" status and removed from the universe of solid waste management units. Analytical results from representative samples confirm that the unit presents no hazard above acceptable levels of risk or contains hazardous constituents in concentrations above nationally regulated levels. Further action on this unit would require expenditure of funds that could be dedicated to remediation of other units where a higher return in environmental benefits would be realized.

Signatures	# PAGES:	DATE: Sept 13, 1991
Prepared By: Scott A McGrail	DOE WAG Manager:	
Approved By: Lois E Van Deusen	Independent Review:	

II. SUMMARY - Qualitative Assessment of Risk: Summarize the approximate qualitative risk (col 8) and the level of reliability in the information used to derive the qualitative risk (col 9). Based on those two factors, use the qualitative risk and reliability evaluation table and record the suggested action. Consider the information garnered by completing the Process/Waste and Contaminant Worksheets and the recommendation from the Qualitative Risk and Reliability Evaluation Table in terms of the qualitative risk involved at this particular site. Summarize the conclusions clearly and succinctly.

III. SUMMARY - Consequences of Error: By answering the following questions, summarize the consequences of making either a false positive or a false negative error. This question requires serious thought in considering the consequences of incorrect decisions. At several points in the process, carefully considered evaluations are required. This question is one of those.

What are the potential consequences of incorrectly deciding the site is not a problem (false negative error)? Example: If we incorrectly decide NOT to clean up the site, the worst that could happen is that a small amount of volatile organics may reach the aquifer in 20 years.

What are the potential consequences of incorrectly deciding that the site is a problem (false positive error)? Example: If we incorrectly decide to remediate with a pump and treat type of technology, we could spend millions of dollars needlessly.

IV. SUMMARY - Other Decision Drivers: Assess the existence and relevance of other decision drivers. For example, the current and likely future land uses for this site may be relevant.

Recommended action: Based on the results of each of the preceding four steps, recommend an action. Clearly and completely explain the rationale for the recommendation.

DECISION STATEMENT
(BY DOE RPM)

DATE RECD: 9/3/91

DISPOSITION: TRA-02 (OU 2-14)

There are no hazardous substances within this unit above actionable levels. Therefore, there should be no further action on this unit as a potential source. Any releases that may have occurred in the past will be addressed in a subsequent RI/FS for TRA.

DATE: 9/13/91	# PAGES (DECISION STATEMENT):
NAME: Lisa Green	SIGNATURE: Lisa A Green for Jerry Hyde

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DECISION STATEMENT
(BY EPA RPM)

DATE RECD: 9/13/91

DISPOSITION:

TRA 02 Paint Shop Ditch
used for storm-water run-off
Alluvial layer to 47ft
Disposal of paint wastes 1957-82. Removal of 6-10 lbs/yr of solids from ditch.
Draft 12/90 closure Plan supports clean closure
Petrex soil gas survey 11/89 detected VOCs but 1990 soil sampling (Data Chem lab) did not detect
87 data not validated but prior to soil disturbance and potential dilution. PCBs + Pb when 87 & 90 data combined are below action levels (10 ppm PCB clean up & 250 ppm Pb).
Solvents may have migrated to perched aquifer but can be addressed under ongoing RI/FS
Data supports that no source exists at ditch which requires further action.

DATE: 9/13/91 | # PAGES (DECISION ~~STATEMENT~~):

NAME: Wayne Pierce | SIGNATURE: Wayne Pierce

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DECISION STATEMENT
(BY STATE RPM)

DATE RECD: 9/13/91

DISPOSITION: TRA. C2 Paint Shop Ditch

Based on the 1987 and 1990 data collection effort, the overall conclusion is that a source that exceeds an acceptable risk does not exist. However, the presence of VOC's and SVOC's which may have migrated to perched water or groundwater, nor the resultant risk from possible migration can be determined by this data. The state concludes no further action on this source is necessary but further action is required ~~to~~ to address perched water and groundwater concerns.

DATE: 9/13/91	# PAGES (DECISION STATEMENT):
NAME: Dean J. Nygard	SIGNATURE: Dean J. Nygard

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PROCESS/WASTE WORKSHEET
SITE ID TRA-02, PAINT SHOP DITCH

Col 1 Processes Associated with this Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process
Process: Paint shop	Infrequent and nonsystematic disposal of chemical paint wastes.	Artifact: Soil/paint agglomerates Location: Paint shop ditch Description: Soil cemented with paint wastes
Process: Soil disturbances: 1. 1975 installation of water line 2. 1987 water line repair 3. 1987 installation of communication cable 4. 1987 sampling effort	No wastes are associated with the soil distubances, although the soil disturbances impacted the unit by mixing and aerating soil containing agglomerates cemented with paint wastes.	Artifact: none associated with soil disturbances Location Description

Col 1: Complete question sheets 1 & 2 then list the processes associated with this site. If more room is needed (i.e., there are more than 3 processes) use another sheet and clearly number the contaminant worksheet pages. Some examples of processes are: paint shop, storage facility, waste pond, construction site, machine shop. Knowing the processes that have historically been associated with a site provides clues for determining what waste streams to look for and what hazardous components/substances to expect. The tables in Appendix A constitute one useful source of information.

Col 2: For the purposes of this document, waste can be considered to be any material/substance that is deposited at the site, such as construction rubble, spilled diesel fuel, wastewater from a process, spent fuel pellets, etc. Describe the waste from the process and describe the handling procedures for that waste. For instance, the waste at the BORAX trash dump is construction/demolition rubble and reports indicate that workers hand sorted the rubble to separate different materials. During the demolition it was noticed that some of the construction debris contained asbestos and the handling procedures were appropriately modified. This implies two things: (1) the waste was not radioactive in nature and (2) the waste has asbestos as a hazardous component. Table 3 in Section 4 represents one useful source of information for identifying waste. Others include any summary assessments that may be in draft form and facility SOPs.

Col 3: For the purpose of this document, an artifact is any man-made physical manifestation of contaminant disposal, such as stained ground, burn marks, dirt piles, and rubble heaps. A structure is any constructed edifice, such as a well, a lagoon, a piping system, a building, and a fence. Knowledge of the existence and location of existing structures and artifacts helps to identify possible sources, indicates possible contaminants, and guides the search for further information. If there are more than three artifacts/structures associated with a particular site, then use additional forms (or use the electronic version) and clearly indicate which process is associated with the artifacts.

CONTAMINANT WORKSHEET

SITE ID PAINT SHOP DITCH TRA-02

PROCESS (Col 1) PAINT SHOP **WASTE** (Col 2) PAINT WASTE

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/ constituents (mg/kg)	Col 7 Risk based concentration (mg/kg)	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med/Lo)
Chromium-(VI)	Contaminated Soil	3.00E+01	6.80E+00	MED	LOW
Mercury	"	4.00E-02	3.40E+01	LOW	HIGH
Nickel	"	2.22E+01	2.27E+03	LOW	HIGH
Silver	"	4.88E+00	3.06E+02	LOW	HIGH
Thallium	"	1.95E+01	3.17E-01	LOW	LOW
Vanadium	"	4.45E+01	1.89E+03	LOW	HIGH
Zinc	"	7.83E+01	3.63E+03	LOW	HIGH
Acetone	"	ND, DL= 1.00E-02	1.13E+00	LOW	HIGH
Toluene	"	ND, DL= 5.00E-03	2.27E+02	LOW	HIGH
1,1,1 Trichloroethane	"	ND, DL= 5.00E-03	4.59E+01	LOW	HIGH
1,1,2 Trichloroethane	"	ND, DL= 5.00E-03	4.56E-03	LOW	HIGH
Trichloroethylene	"	ND, DL= 5.00E-03	9.47E-02	LOW	HIGH

CONTAMINANT WORKSHEET page 13a

SITE ID PAINT SHOP DITCH

PROCESS (Col 1) PAINT SHOP **WASTE** (Col 2) **PAINT WASTES**

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/ constituents	Col 7 Risk based concentration	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med/Lo)
Tetrachloroethylene	Contaminated Soil	ND, DL= 5.00E-03	5.12E-02	LOW	HIGH
Xylene	"	ND, DL= 5.00E-03	5.67E+03	LOW	HIGH
Aroclor-1254	"	5.90E-02	3.37E-02	MED	LOW
Aroclor-1260	"	1.70E-02	3.37E-02	LOW	LOW

General: Notice that this worksheet is associated with one process and one waste. Each contaminant is treated independently.

Col 4: Identify the known and potential hazardous substances or constituents that are associated with the waste. For instance, benzene is typically a hazardous component of diesel fuel and asbestos is commonly a hazardous component of building rubble. Table 3 in Section 4 is one source of information that may be helpful.

Col 5: Complete question sheets 3, 4 & 5. Question sheet 3 will help to identify evidence that there has been a migration of waste components. If there is evidence of migration, question 4 helps to evaluate the existence/non-existence of a source. Some examples of sources are contaminated soil, contaminated perched water zones, and contaminated airborne dust. Question 5 examines the extent and distribution of contamination at the source. If there is no source, question 5 is not applicable.

Col 6: Complete question sheets 6 & 7. Question 6 will provide the volumetric measure of the source, and Question 7 will provide the quantity of hazardous substance thought to be at the source. The ratio (amt of contaminant / volume of source) will give an estimate of the concentration of the hazardous substance. If there exist analytical data, a conservative sample analysis may be used to estimate the concentration. For sample analyses with concentrations below detection limits, write 'ND' (not detected) and the detection level. Be sure to include units.

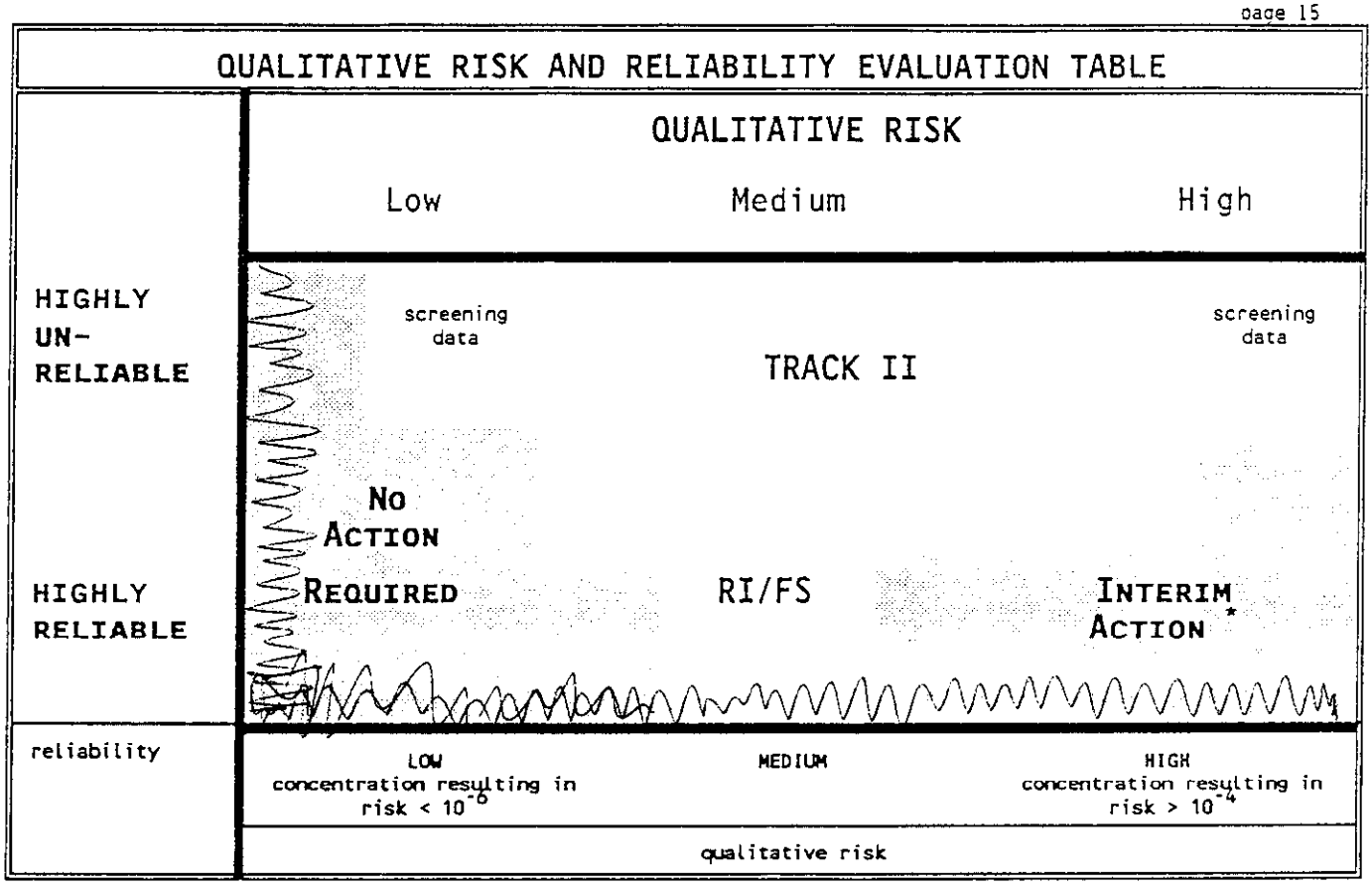
Col 7: Risk assessment professional(s) will provide an estimate of the concentration of the hazardous substance necessary to pose a risk > 10^{-6} under the relevant scenarios similar to the example below in Table D-1. The lowest concentration in Table D-1 is 1.35E+04, and would be entered in Col 7.

Col 8: Complete Question sheet 8. Compare the concentration in Col 6 with the concentration in Col 7. There are now two important pieces of information available: the ratio of known concentration vs risk based concentration and the presence or absence of the contaminant in the source today. Based on these two pieces of information, evaluate the risk as low, medium or high. Recall that this is a QUALITATIVE risk analysis, so at this point there are no rigorous analytical techniques available to measure the risk.

Col 9: An estimate of the reliability was made as the eight question sheets were being completed. Consider the aggregate of the information in conjunction with the current presence or absence of hazardous substances and assign an overall reliability of high, medium or low. (eg 6 high, 2 medium and 0 low would imply high overall confidence in the qualitative assessment.)

Table D-1. EXAMPLE summary of risk-based soil screening concentrations for barium

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HG = 1 (mg/kg)
Soil ingestion	--	1.00E+05	--	1.35E+04
Inhalation of fugitive dust	--	2.70E+04	--	1.90E+04
Inhalation of volatiles	--	--	--	--
Groundwater ingestion	N/A	N/A	--	1.94E+04



* if there exist sufficient data to identify an appropriate remedy

Horizontal Axis: The horizontal axis represents the qualitative risk assessment in terms of a continuum from High to Low. High means that the concentration estimated in Col 6 is significantly higher than the risk based concentration calculated in Col 7. Low means that the concentration estimated in Col 6 is significantly lower than the risk based concentration calculated in Col 7. Draw a vertical 'squiggly' line (or some other representation) for EACH contaminant of concern listed in Col 4 and clearly identify the contaminant associated with the line. (The purpose of a 'squiggly' line rather than a straight line is to emphasize the qualitative nature of the chart.)

Vertical Axis: The vertical axis represents the overall level of reliability calculated in Col 9. Draw a horizontal 'squiggly' line (or some other representation) for EACH contaminant listed in Col 4 and clearly identify the contaminant associated with the line. (The purpose of a 'squiggly' line rather than a straight line is to emphasize the qualitative nature of the chart.)

The intersections of the line pairs for each contaminant will provide an initial recommendation pertinent to each contaminant. The overall risk/reliability picture for a site will consist of several pairs of lines, each with an initial recommendation. The interaction and significance of these initial recommendations will help to determine an initial recommendation for the site. This recommendation will be summarized in II. SUMMARY - Qualitative Assessment of Risk.

TRACK 1 EVALUATION FOR THE TEST REACTOR AREA (TRA) PAINT SHOP DITCH

A track 1 assessment was conducted to establish risk-based soil screening concentrations to evaluate potential hazardous contaminants at the TRA paint shop ditch. The calculation of the soil screening concentration was based on a target risk level representing a hazard quotient of one or a cancer risk of 1.0E-06. The following were identified as potential contaminants at the TRA paint shop ditch: calcium, chromium (VI), cobalt, lead, mercury, nickel, silver, sodium, thallium, vanadium, zinc, toluene, perchloroethylene (tetrachloroethylene), trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, acetone, xylenes, aroclor-1254, and aroclor-1260. Several contaminants (calcium, cobalt, lead, and sodium) were not included in the determination of soil screening concentrations because of the lack of toxicity data that is needed to perform the calculations.

Summary tables of risk-based soil screening concentrations for each evaluated contaminant are attached. Four pathways were evaluated: ingestion of soil, inhalation of fugitive dust, inhalation of volatiles, and ingestion of groundwater. Soil levels were calculated for occupational and residential scenarios, as applicable to the receptor scenario. The ingestion of groundwater pathway provided the most significant risk (lowest risk-based screening concentration) for all contaminants, with the exception of vanadium. The most significant pathway for vanadium was the ingestion of soil.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR NICKEL

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	4.00E+04	--	5.40E+03
Inhalation of Fugitive Dust	7.67E+03	--	4.66E+03	--
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	2.27E+03

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR MERCURY

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	6.00E+02	--	8.10E+01
Inhalation of Fugitive Dust	--	2.02E+05	--	1.46E+05
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	3.40E+01

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR CHROMIUM-(VI)

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	1.00E+04	--	1.35E+03
Inhalation of Fugitive Dust	1.57E+02	1.34E+03	9.54E+01	9.70E+02
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	6.80E+00

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR SILVER

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	6.00E+03	--	8.10E+02
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	3.06E+02

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR THALLIUM

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	1.40E+02	--	1.89E+01
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	3.17E-01

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR VANADIUM

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	1.40E+04	--	1.89E+03
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	7.93E+03

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS FOR
TRA PAINT SHOP DITCH FOR ZINC

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	4.00E+05	--	5.40E+04
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	NA	NA	NA	NA
Groundwater Ingestion	NA	NA	--	3.63E+03

NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR ACETONE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	2.00E+05	--	2.70E+04
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	--	--	--	--
Groundwater Ingestion	NA	NA	--	1.13E+00

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR TOLUENE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	4.00E+05	--	5.40E+04
Inhalation of Fugitive Dust	--	1.34E+09	--	9.70E+08
Inhalation of Volatiles	--	>1.00E+06	--	>1.00E+06
Groundwater Ingestion	NA	NA	--	2.27E+02

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR 1,1,1-TRICHLOROETHANE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	1.80E+05	--	2.43E+04
Inhalation of Fugitive Dust	--	7.04E+08	--	5.11E+08
Inhalation of Volatiles	--	8.95E+05	--	7.12E+05
Groundwater Ingestion	NA	NA	--	4.59E+01

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR 1,1,2-TRICHLOROETHANE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	1.00E+02	8.00E+03	1.12E+01	1.08E+03
Inhalation of Fugitive Dust	1.13E+05	--	6.86E+04	--
Inhalation of Volatiles	1.75E+02	--	1.16E+02	--
Groundwater Ingestion	NA	NA	4.56E-03	4.53E-01

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR TRICHLOROETHYLENE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	5.18E+02	--	5.82E+01	--
Inhalation of Fugitive Dust	3.79E+05	--	2.30E+05	--
Inhalation of Volatiles	3.95E+02	--	2.60E+02	--
Groundwater Ingestion	NA	NA	9.47E-02	--

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR PERCHLOROETHYLENE (TETRACHLOROETHYLENE)

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	1.12E+02	2.00E+04	1.26E+01	2.70E+03
Inhalation of Fugitive Dust	3.58E+06	--	2.17E+06	--
Inhalation of Volatiles	5.20E+03	--	3.40E+03	--
Groundwater Ingestion	NA	NA	5.12E-02	1.13E+01

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR XYLENE

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	--	4.00E+06	--	5.40E+05
Inhalation of Fugitive Dust	--	2.02E+08	--	1.46E+08
Inhalation of Volatiles	--	>1.00E+06	--	5.18E+05
Groundwater Ingestion	NA	NA	--	5.67E+03

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR AROCLOR-1254 (PCBs)

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	7.40E-01	--	8.31E-02	--
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	--	--	--	--
Groundwater Ingestion	NA	NA	3.37E-02	--

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

SUMMARY TABLE OF RISK-BASED SOIL SCREENING CONCENTRATIONS* FOR
TRA PAINT SHOP DITCH FOR AROCLOR-1260 (PCBs)

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	7.40E-01	--	8.31E-02	--
Inhalation of Fugitive Dust	--	--	--	--
Inhalation of Volatiles	--	--	--	--
Groundwater Ingestion	NA	NA	3.37E-02	--

* = No credit for chemical degradation was taken.
NA = Not Applicable.
-- = Calculation not performed because of no published toxicity value.
Shaded box = Lowest risk-based soil concentrations.

Question 1. What are the waste generation process locations and dates of operation associated with this site?

Block 1 Answer:

Waste was generated at the TRA-02 Paint Shop Ditch as part of the operations of the paint shop located in TRA-662 from 1957 to 1982[9]. The area of concern at the TRA-02 Paint Shop Ditch is a ditch which was constructed for stormwater run-off immediately adjacent to Whitefish Avenue (see attached map).

The Paint Shop Ditch (TRA-02) is located in the Test Reactor Area (TRA) immediately adjacent to the west end of building TRA-662. The west section of building TRA-662 was used for a paint shop from 1957 to 1982. The paint shop in TRA-662 was used for 3 purposes[8]. (1) It was a base of operations for painters at TRA where paint and equipment was stored. Painters would collect equipment and paint at TRA-662 and go to assigned areas where paint operations were conducted. (2) The paint shop area itself was used to paint items such as cabinets, motors, pumps, and iron parts. (3) The gravel area between TRA-662 and Whitefish Avenue was used to paint larger items such as iron beams.

The types of paints used at the paint shop were lead-based enamels, zinc-chromate primers, high temperature paints and to a lesser extent latex[8]. Solvents used at the paint shop included mineral spirits, xylene, toluene and acetone. The reference to high temperature paint is of interest in assessing the source of waste products at the TRA-02 Paint Shop Ditch since the this type of paint may contain polychlorinated biphenyls (PCB)[10,13].

Waste in the paint shop was generated as follows:

Cleaning of Equipment: 1957 to 1982

Paint waste thinners and solvents were generated. Paint shop personnel cleaned brushes, spray painting and other painting equipment in TRA-662.

Empty Containers: 1957 to 1982

Empty and partially empty paint and solvent cans were generated as waste, estimated at 20-1 gallon paint cans/month and 2-5 gallon solvent cans/month.

Paint Overspray: 1957 to 1982

Paint shop personnel spray painted large iron beams and other large items with zinc-chromate primer paints. Items too large to fit into the paint shop were painted outside on the gravel and driveway. Paint overspray from these operations generated waste.

Block 2
How reliable is/are the information source/s? _X_ High___ Med___ Low (check one)
Explain the reasoning behind this evaluation.

The information related to the location of the paint shop and the generation of paint wastes is supported by a former paint shop employee who performed waste generation and observed operation at this location. This information is therefore, considered reliable.

The period of operation was taken from the Installation Assessment Report.

Block 3 Has this INFORMATION been confirmed? X Yes ___ No (check one) page 17a
If so, describe the confirmation.

The location of the paint shop in this building and the generation of waste at the paint shop is confirmed by a former paint shop employee[3].

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

No available information	[ ]		Analytical data	[ ]	
Anecdotal	[X]	4,10	Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering/site drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[X]	4
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[X]	9,13	Memo of Conversation	[X]	8,10

Block 1: Identify the waste generation process locations that are associated with this site. One useful source for this information is Appendix A. A refueling facility 1.5 miles northeast of TAN, operating from 1968 to 1976 would be an example of a waste generation process.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. A single source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.

Question 2. What are the disposal process locations and dates of operation associated with this site? How was the waste disposed?

Block 1 Answer:

Disposal of waste occurred at the paint shop as personnel disposed of paint solvents, paint thinners, cans, rags and paint overspray as follows:

Period of Disposal: 1957 - 1982

Paint waste thinners and solvents were disposed in the ditch immediately adjacent to Whitefish Avenue. The ditch is connected under the driveway to TRA-662 by a culvert. Disposal of paint wastes occurred in this ditch on both sides of the driveway. The size of the disposal area is estimated at 3 meter by 5 meter areas on each side of the driveway adjacent to Whitefish Avenue.

Solids in the waste dried in place and solidified in the ditch. Solidified soil and paint wastes were removed and disposed in dumpsters by paint shop personnel and TRA yardmen. The amount of solids removed from the ditch is estimated at 8 to 10 lbs of solidified soil and paint waste twice every year[a].

Period of Disposal: 1957 - 1982

Disposal of paint cans, thinner cans, rags and solidified paint wastes were disposed of in dumpsters at TRA. The contents of the dumpsters were taken to the CFA Landfill.

Period of Disposal: 1957 - 1982

Disposal of paint occurred just outside of TRA-662 on the gravel areas as painters oversprayed.[a]

Block 2
How reliable is/are the information source/s? X High __ Med __ Low (check one)
Explain the reasoning behind this evaluation.

Information related to the actual location of disposal is reliable since it was given by an individual who performed and observed the waste disposal[e].

Information concerning disposal and final disposition of the waste cans and solidified paint wastes is considered reliable.

Block 3 Has this INFORMATION been confirmed? _X_ Yes ___ No (check one) page 19a
If so, describe the confirmation.

The location of disposal of paint wastes was confirmed in 1987 when paint agglomerates were observed[1].

Block 4 Sources of Information: (check appropriate box/es & number source/s)

No available information	[ ]		Analytical data	[ ]	
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering/site drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[X]	4
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
Other	[X]	8,9	Sampling Report	[X]	1

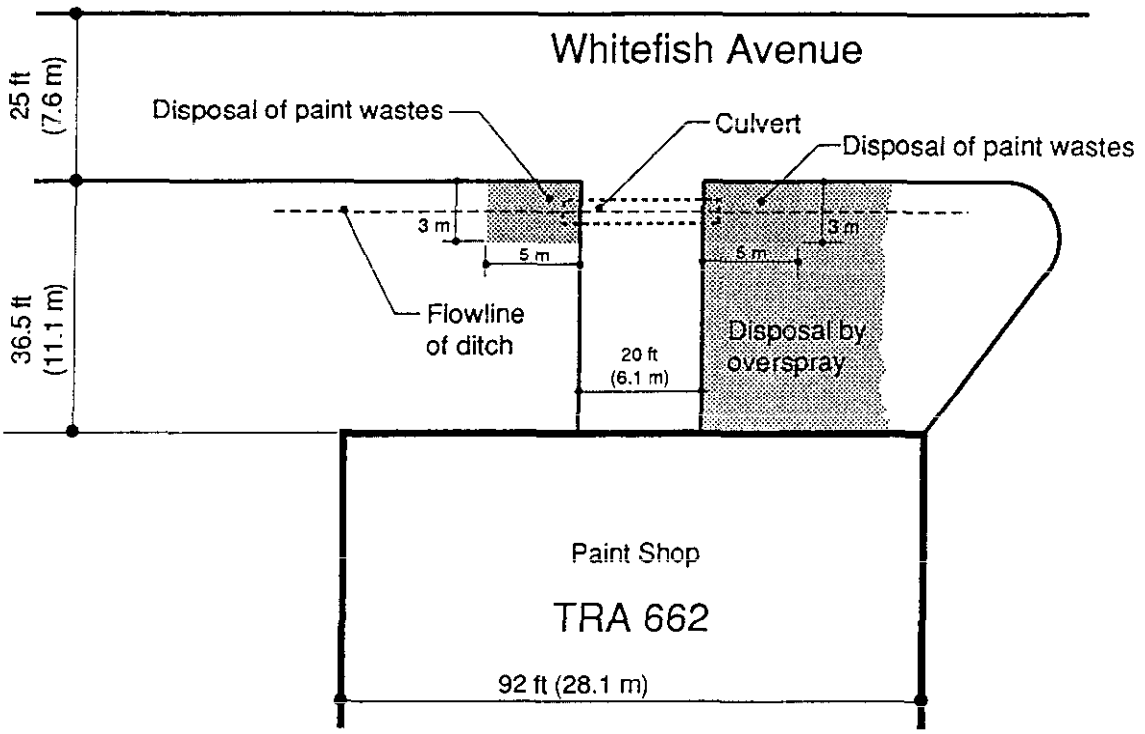
Block 1: Identify the disposal process locations that are associated with this site. One useful source for this information is Appendix A. Describe the disposal procedures for this waste.

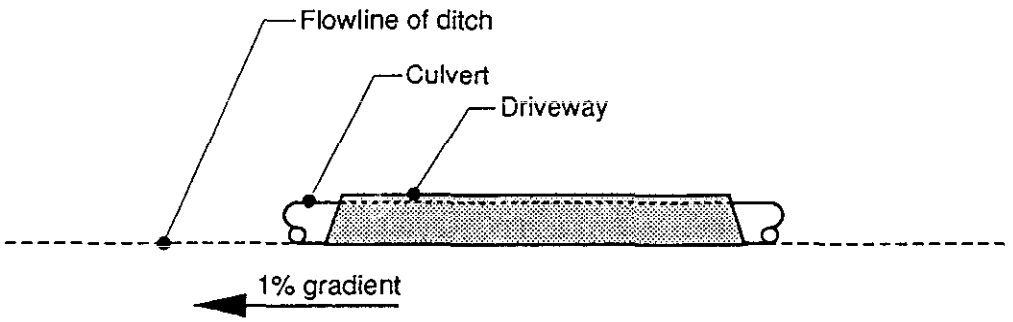
Block 2: Consider the information sources that were used to identify the waste disposal process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.

Question 2





Cross-section of paint shop ditch at the flowline of the ditch

T91 0530

Question 3. Is there empirical, circumstantial or other evidence of migration? If so, what is it?

Block 1 Answer:

There is evidence that migration of potential contaminants occurred at the unit.

Paint residue migrated along the ditch bottom 1 meter (3.3 feet) from the south end of the driveway culvert. Paint agglomerates were located within 1 meter from the south end of the driveway culvert and were randomly distributed in the ditch due to soil disturbances. The soil disturbances occurred in 1975 when a new water line was constructed through the unit and again in 1987 when a section of the same line which feeds TRA-662 was excavated and repaired.

Migration of volatile organic compounds (VOC) was limited due to the fact that the waste was disposed of in small quantities over a 25 year period[8,9]. Also, migration of these VOC's in the arid climate at the INEL would have been limited due to rapid volatilization.

The content of the waste was estimated in the Installation Assessment Report and consisted of 50% mineral spirits, 20% Xylene, 20% toluene, 5% acetone and 5% water[3]. The volume of waste estimated in the Installation Assessment Report was 10,400 liters for the period of operation from 1957 to 1982. This estimate was based on one 55 gallon (420 liter) drum per year disposed of in the ditch. The amount of lead was estimated at 36 lbs (16.3 kg). This estimate was based on the assumption that the waste contained 5% paint residue with a lead content of 3% by weight[1]. Analytical data[3] from soil samples collected in 1990 indicate nondetections for these volatile organic compounds at the unit (see Appendix A for analyte list).

The 1990 analytical data indicate the presence of aroclor 1254 (0.059 mg/kg, avg) and aroclor 1260 (0.017 mg/kg, avg) at the unit. See attached map and table for locations and values. The data for PCBs was not validated since samples exceeded the required holding time for extraction[5] by 79 days. The data however are reliable since PCB do not quickly degrade or transform. These data indicate that PCBs did not migrate away from Paint Shop Ditch. PCBs were discovered in the 1987 sampling activity. However these data are not representative of the soils at the Paint Shop Ditch since biased samples were collected in areas with visible contamination. Problems with field and laboratory QA/QC results and a lack of documentation outlining the sampling and analysis methodology makes accurate interpretation difficult.

Inorganic constituents were detected during 1990 in concentrations above the background levels recommended in table E-1 of the Track 1 guidance document[12].

Block 2 page

How reliable is/are the information source/s? _X_ High _X_ Med ___ Low (check one)

Explain the reasoning behind this evaluation.

The information concerning the migration of potential contaminants is highly reliable since it is based on the observations of several individuals during sampling activities in 1987
The 1990 analytical data[3] are highly reliable because the samples are statistically representative of the site. Random and biased samples were collected. Biased sample locations included those areas likely be contaminated.

Medium reliability was assigned to the estimates of quantities disposed because they are based on hearsay. However, these estimates are considered to be conservative in determining the amount of waste discharged.

Block 3 Has this INFORMATION been confirmed? _X_ Yes __ No (check one) page 21a
If so, describe the confirmation.

The migration of potential contaminants has been confirmed through several sources[1].

The analytical data has been confirmed through validation.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

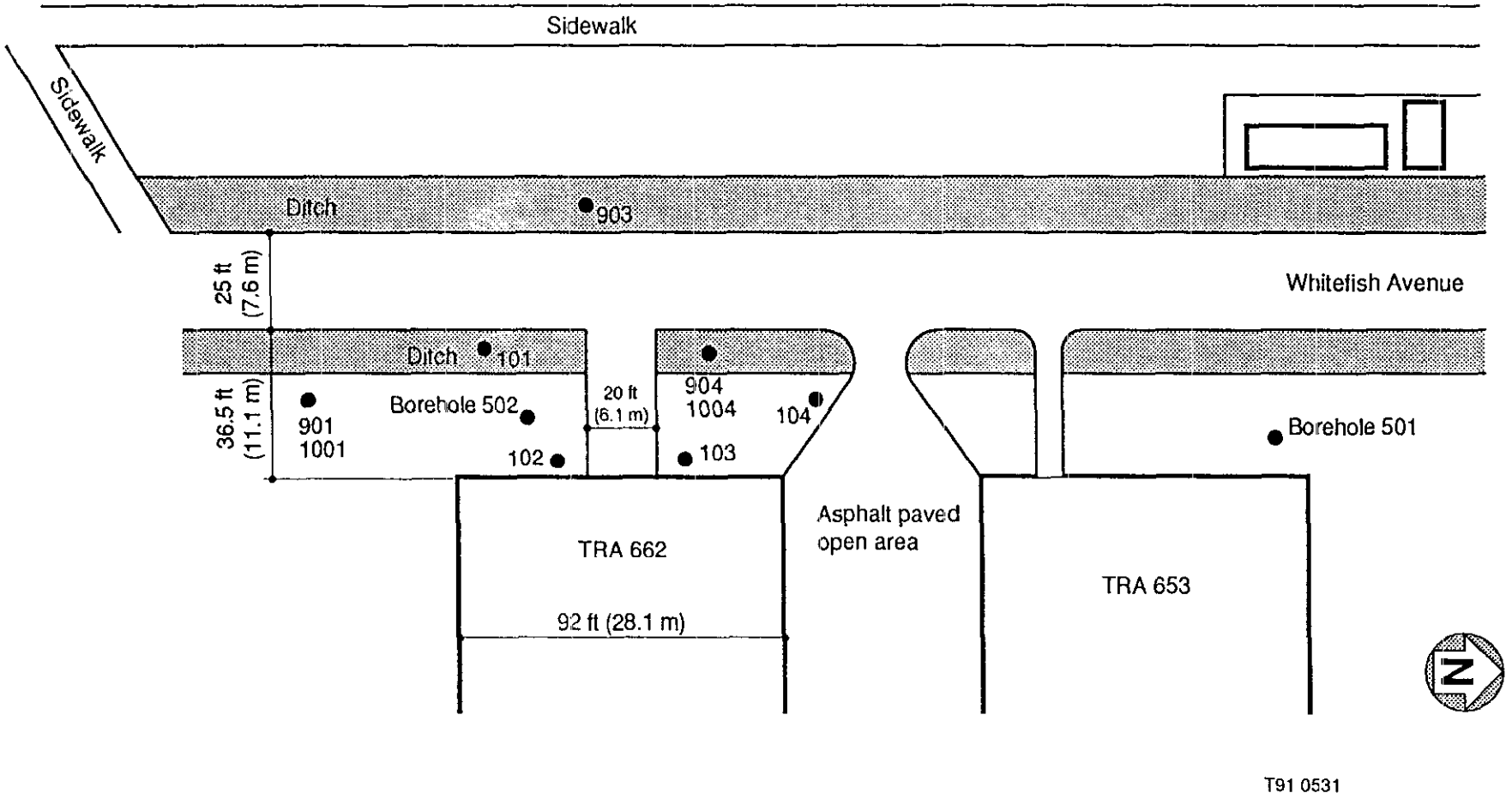
No available information	[ ]		Analytical data	[X]	3
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction Data	[ ]	
OTHER	[X]	1	Closure Plan	[X]	2

Block 1: Evidence of migration may be anything from "...there was some strange powder on the plant leaves that were downwind of those buildings..." to a representative and significant analytical data set. Given the resources available (e.g. reports, stories, photographs, etc.), your search for evidence should be thorough. Don't stop analyzing the results of a search when one piece of evidence is found. There may be several other pieces of evidence associated with the specific contaminant and process. While one piece of evidence may or may not be conclusive, several independent pieces of evidence supporting the same outcome is probably conclusive.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.



PCB sample locations at the paint shop ditch, TRA-02

Question 3

PCB Sample Data From 1990

Sample	Depth (ft)	Aroclor 1254 mg/kg	Aroclor 1260 mg/kg
101	2	0.060	0.010
201	10	ND	ND
102	2	0.052	ND
103	2	0.058	ND
104	2	ND	ND
501	15	ND	ND
502	15	ND	ND
901	2	ND	ND
1001	10	ND	ND
903	2	ND	ND
904	2	0.066	0.023
1004	10	ND	ND

AVERAGE VALUES OF INORGANIC CONSTITUENTS
FROM THE 1990 DATA
AT THE
PAINT SHOP DITCH

Inorganic Constituents	Number of Samples	Minimum Conc. mg/kg	Maximum Conc. mg/kg	Average Conc. mg/kg	Background Table E-1 mg/kg
Calcium	32	6,010	84,200	24,588	15,700
Chromium	32	18.3	39.3	30.1	21.2
Cobalt	32	2.6	14.6	7.5	6.9
Lead	32	7.2	75.7	15.8[a]	34.7
Mercury	34	0.02	0.09	0.04[a]	0.05
Nickel	32	15.0	30.6	22.9	21.0
Silver	32	0.58	11.6	4.9	3.2
Sodium	32	43.8	2,950	210	187
Thallium	32	13.4	32.3	19.5	17.2
Vanadium	32	28.6	54.8	44.5	35.3
Zinc	32	41.1	491	78.3[a]	85.2

a. These values may be present in paint waste and are higher than recommended Track 1 guidance[12] background concentrations.

Question 4. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

There is evidence that a minor source exists at this unit due to the existence of paint agglomerates in the soil.

However, evidence of a contamination source was sought while sampling in 1990[2]. Samples were collected from a borehole drilled to a depth of 47 feet to basalt at a biased location where process knowledge and previous data[1] indicated the most potential for contamination. Samples were also collected and analyzed for organic and inorganic constituents from shallow borings at depths of 2 and 10 feet in the area. If a source which contributes ongoing contamination existed at this unit the data from the 1990 sampling effort would likely indicate constituents with elevated concentrations in those samples collected at the 10 foot level.

The data indicate concentrations of lead and zinc collected at the 2 foot level in the immediate vicinity of the Paint Shop Ditch do not show significant increases from those collected at the 10 foot level at the same location (see attached table). Sample location PSD904M/PSD1004M where disposal is known to have occurred and where increased concentrations of Lead and Zinc were found at 2 feet (Pb-75.7 mg/kg, Zn-491 mg/kg) show much decreased concentrations at 10 feet (Pb-9.00 mg/kg, Zn-83.30 mg/kg). The borehole was drilled to a depth of 47 feet down to basalt and samples were collected at 2, 10, 25 and 47 feet. The data do not indicate the presence of lead, mercury, chromium or zinc at concentrations above the background values as recommended in the Track 1 guidance[12].

VOCs were not detected in this sampling effort indicating a source for these constituents does no exist. The open disposal of 10,400 liters of paint thinners and solvents presents little potential for contaminant migration because of the low persistence due to volatilization of these materials. The fact that the waste was disposed of in small increments in the dry arid climate of the INEL further decreased the likelihood of downward movement of VOCs.

Block 2
How reliable is/are the information source/s? _X_ High __ Med __ Low (check one)
Explain the reasoning behind this evaluation.

The sampling plan required the collection of representative samples.

Block 3 Has this INFORMATION been confirmed? _X_ Yes __ No (check one)
If so, describe the confirmation.

The data was confirmed by validation.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

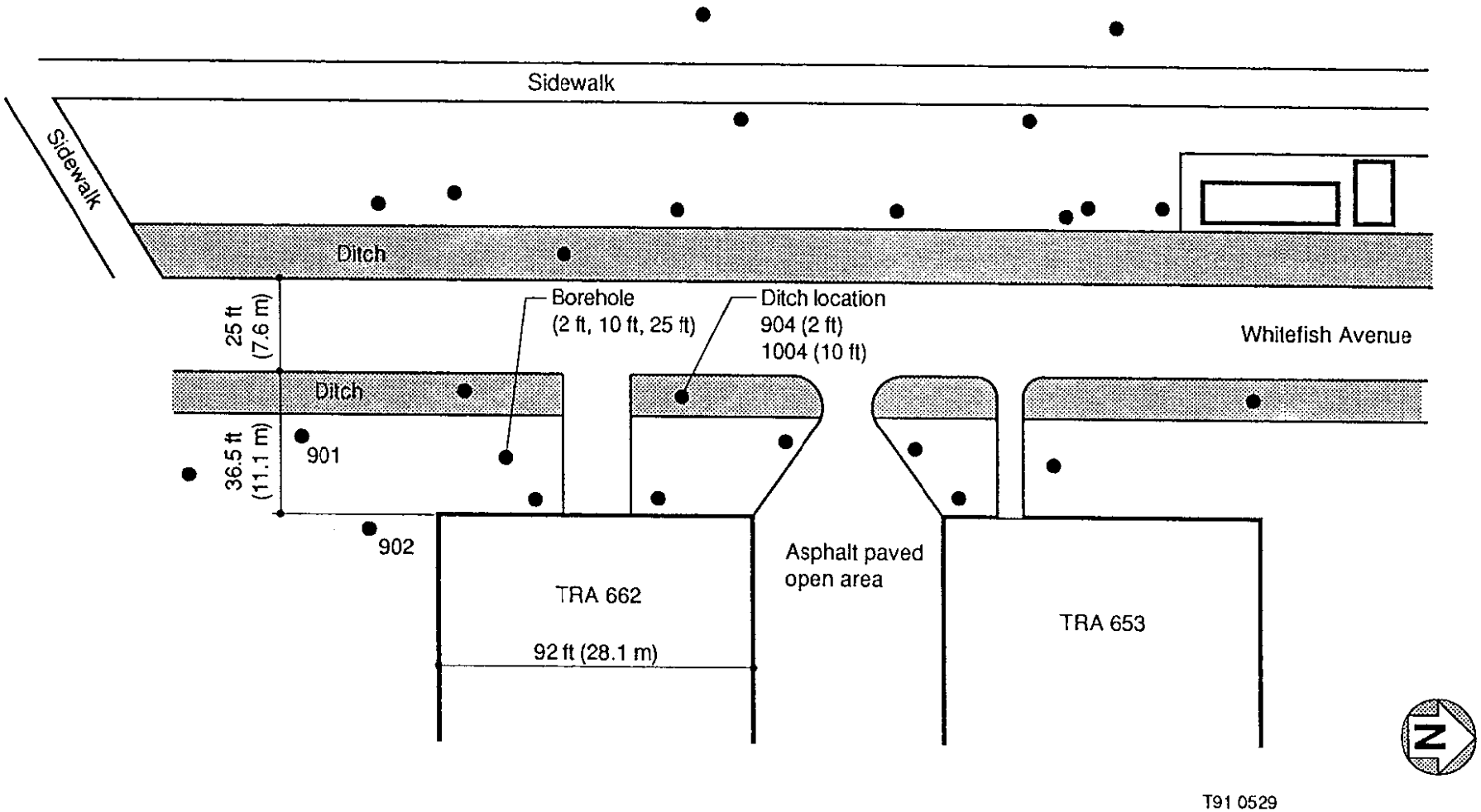
No available information	[ ]		Analytical data	[X]	3
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[ ]		Well Data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[X]	1,7,12	Closure Plan	[X]	4

Block 1: A source is a physically identifiable location causing ongoing contamination. For example, a perched water zone with tritium is a source since the tritium can be transported through the subsurface to the groundwater. A rubble pile with loose asbestos building materials is a source since the asbestos may be carried by the wind; however, a rubble pile that had a volatile organic spill may or may not contain a source. If the time since the spill is sufficient for the entire volume of the contaminant to volatilize, then there is no source. If the entire volume may not have volatilized, then the material or soil in the rubble pile contaminated by the organic substance is a source, and the rubble pile is an artifact.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.



Sample Locations at the paint shop ditch at locations of suspected contamination

Question 4

PAINT SHOP DITCH
SAMPLES COLLECTED NEAR SURFACE AND AT DEPTH
DURING 1990 SAMPLING ACTIVITY

Location	Sample #	Depth (ft)	Lead mg/kg	Mercury mg/kg	Chromium mg/kg	Zinc mg/kg
Borehole South of Driveway	PSD0302M	2	10.0	0.03	27.80	53.60
	PSD0402M	10	7.7	0.02	20.30	42.80
	PSD0602M	25	9.9	0.03	27.10	56.80
	PSD0702M	47 basalt	13.9	0.03	32.60	68.30
Ditch North of Driveway	PSD0904M	2	75.7	0.06	35.80	491
	PSD1004M	10	9.0	0.06	33.70	83.30

Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

Historical information indicates that paint waste disposal occurred in the ditch near the driveway to TRA-662.

The method of disposal indicates that a contaminated hot spot would have been located in the ditch on the north and south sides of the driveway[8]. Paint agglomerates were observed at in this area in 1987 during sampling activities[1] even though it is recognized that they may have been dispersed during construction activities. Also, a hot spot was detected in 1990 (see attached map) where elevated levels of lead and zinc were found in samples collected from the ditch on the north side of the driveway.

Block 2
How reliable is/are the information source/s? _X_ High __ Med __ Low (check one)
Explain the reasoning behind this evaluation.

The information on the location of disposal is reliable.

Block 3 Has this INFORMATION been confirmed? _X_ Yes _X_ No (check one)
If so, describe the confirmation.

The location of disposal was confirmed when paint agglomerates were observed at the suspected disposal area in 1987 during sampling activities.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

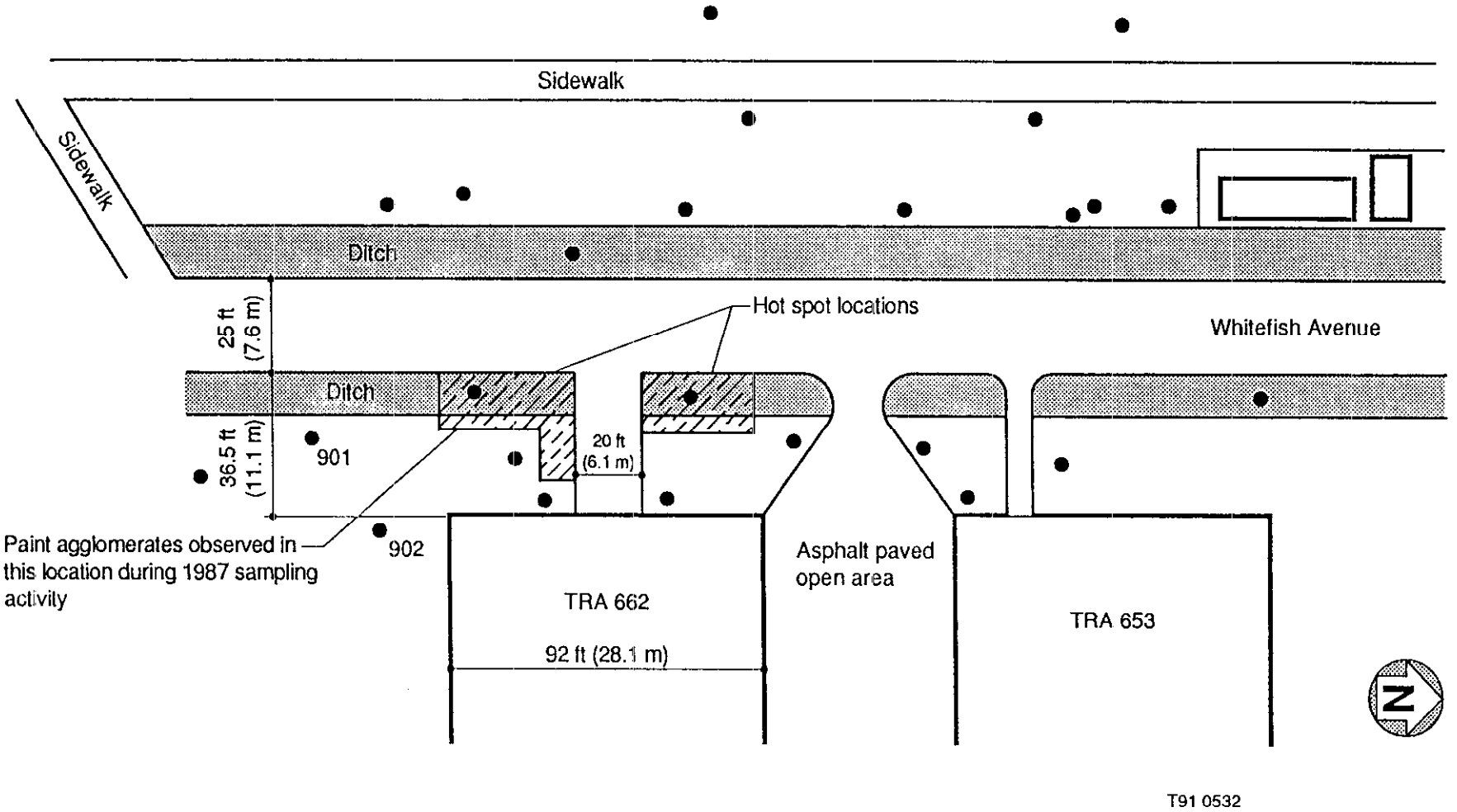
No available information	[ ]		Analytical data	[X]	3
Anecdotal	[X]	8	Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[ ]		Sample Report	[X]	1

Block 1: Review all available information about this site and consider other sites similar in nature to determine if it is feasible to estimate the pattern of potential contamination. The information in this answer will help to assess the overall reliability written in Col 9. For instance, if a hot spot is expected with a minimum size that encompasses the entire site and none of three available samples within the area of the site indicates significant contamination, then it may be concluded that there is probably no contamination requiring action.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.



Map of hot spots at the paint shop ditch, TRA-02

Question 5

Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

The contaminated area was originally estmated in the Initial Assessment to be an area 0.61 m (2 ft) wide by 7.6 m (25 ft) in length and 0.6 m (2 ft) in depth[4]. Later soil disturbances of the site during 1975 and 1987 caused dispersion of constituents to an estimated volume of soil of 259 m^3 (see attached drawing and calculations).

The known or estimated volume of the source is 420 liters/year of paint wastes were discharged[1], (estimate taken from the Initial Assessment). The estimate was based on the assumption that a total of 10,500 liters of paint wastes containting 36 lbs of lead were discharged to the ground over the 25 year period of paint shop operation at this location. This number was generated by assuming that the volume of material used during 1986 represented an average volume used during the other years of paint shop operation[9]. The amount of solidified paint residue left in the ditch was decreased since dried paint/soil agglomerates were removed by an estimated 8 to 10 lbs twice per year (16-20 lbs/yr)[8].

Block 2
How reliable is/are the information source/s? __ High _X_ Med __ Low (check one)
Explain the reasoning behind this evaluation.

The information related to estimates of volume are give a medium reliability since they are based on conversations with individuals associated with the paint shop operation rather than actual records. The volumes may be less than these estimates indicate since sampling data indicate nondetections for VOCs.

Block 3 Has this INFORMATION been confirmed? _X_ Yes __ No (check one)
If so, describe the confirmation.

The fact that disposal has occurred has been confirmed by sampling data. The actual volumes have not been confirmed.

Block 4 Sources of Information:

			(check appropriate box/es & number source/s)		
No available information	[ ]		Analytical data	[X]	3
Anecdotal	[X]	4	Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurence Report	[ ]		Initial assessment	[X]	4
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[X]	1,8,9			

Block 1: Although the estimate may be decidedly rough, it is necessary to provide some estimate of the length, width, and depth of the affected region and the volume of the source. If there does not appear to be a source, then the obvious estimate must be 0 cubic meters. A very precise explanation of HOW the volume was calculated is essential if an estimate was used.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.

ESTIMATE OF VOLUME OF DISTURBED SOIL
AT THE
PAINT SHOP DITCH TRA-02

Volume of disturbed Soil:

Volume I = ((2.8m x 2.8m) + (2.8m x 0.6m)) x 15.3m

= 146 m^3

- Side slopes of the trench - 1:1.
- Bottom width - 0.6 meter (2 ft).
- Depth of trench - 2.8 meters (9 feet).
- Estimated length of the trench - 15.3 meters (50 ft).

Volume II = (5m x 2.8m x 8.1m)

= 113 m^3

- Side slopes of the trench - Vertical, assume shoring for repair
- Bottom width of the trench - 5 meter (16.4 ft).
- Depth of trench - 2.8 meters (9 feet).
- Estimated length of trench - 8.1 m (26.5 ft).

Total Volume = Volume I + Volume II

= 146 m^3 + 113 m^3

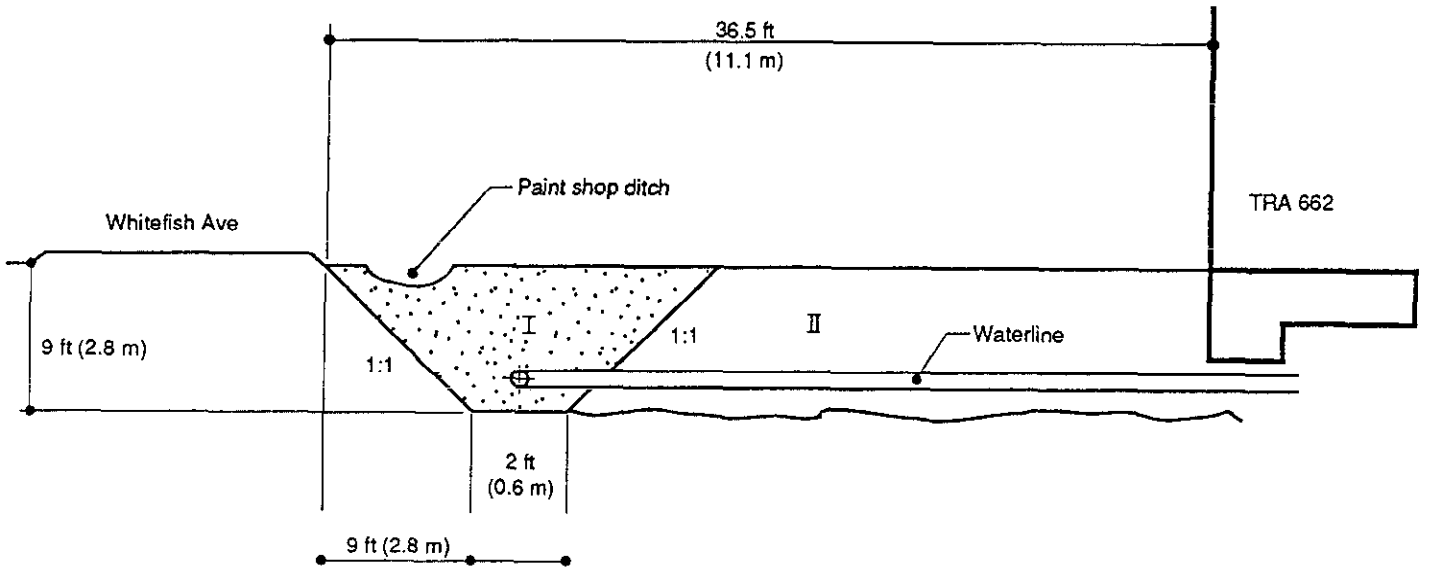
= 259 m^3

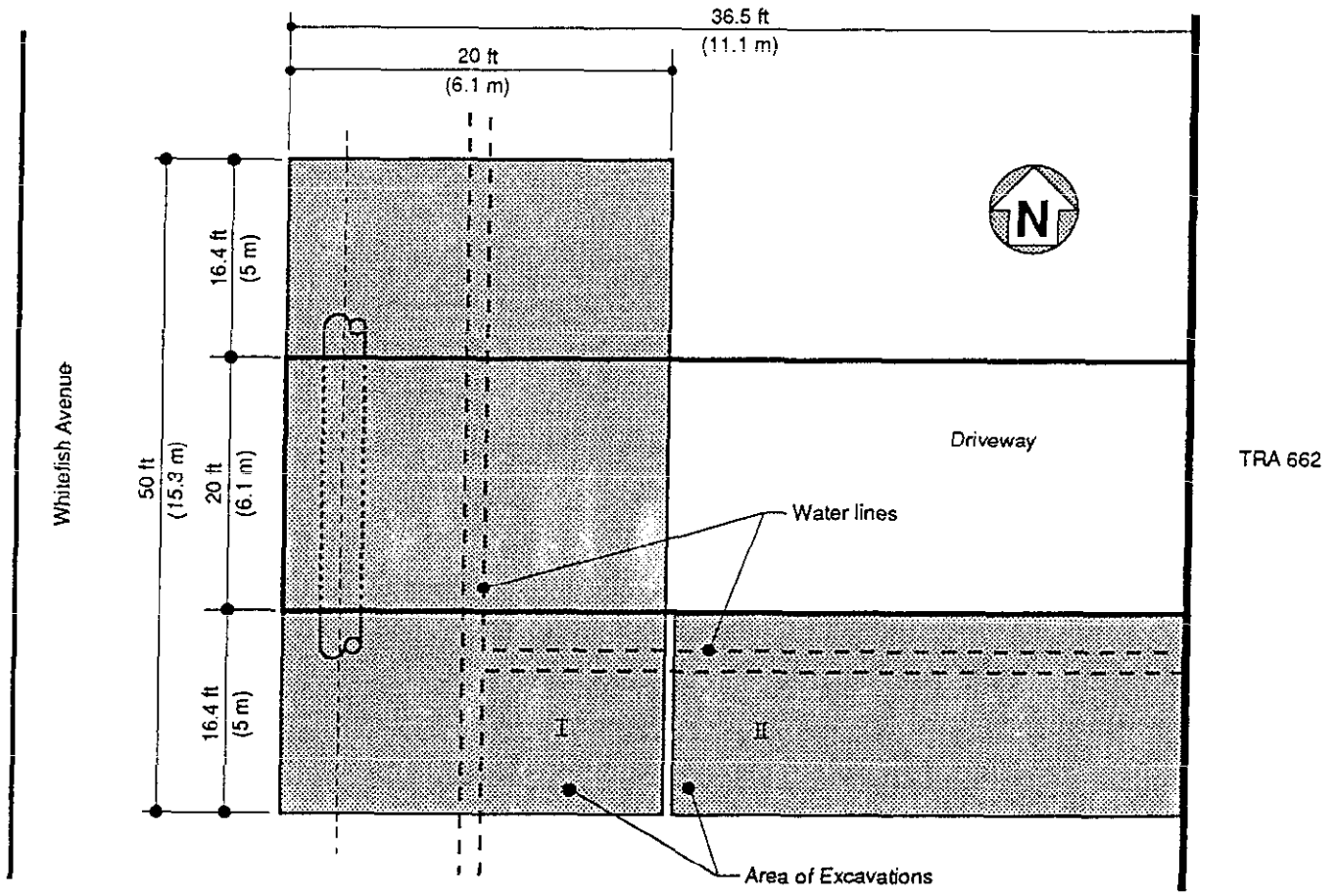
- This is an estimate of the total of material which was disturbed and may contain solidified paint residue. Cleanup of this site would likely involve a greater volume of soil to insure complete removal of all constituents.

Volume of Soil for Remediation:

Assuming the extent of excavation for remediation would be 2 meters beyond the original construction excavations to insure full removal of all paint/soil agglomerates. Volume I would be (10m x 19m x 2.8m) or 532 m^3. Volume II would be (7m x 5m x 2.8m) or 98m^3. The total Volume would be 630 m^3.

Question 6





T91 0528

Excavations at the paint shop ditch - TRA 02

Question 7. What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

Block 1 Answer:

The known or estimated quantity of additional hazardous substance is near zero.

The volume of hazardous substance disposed of at the unit was originally estimated in the Initial Assessment as 10,500 liters[1] (520 liters/year, avg) of mineral spirits, xylene, toluene and acetone. Analysis of analytical data for samples collected in 1990[3] indicate nondetections for these constituents.

The estimated amount of lead in this volume is 16.3 kg (36 lbs)[2,4]. This amount is conservative since it has not take into account removal of paint agglomerates by paint shop personnel during the period of paint shop operation. If the full amount of 36 lbs was actually disposed of and remained at the unit the concentration of lead in the soil would have increased by 32.4 mg/kg (see attached calculations). If a similar conservative assumption is made for zinc, chromium and mercury (16.3 kg or 36 lbs) the increased concentrations of these constituents would be the same. The analyitcal data[3] indicate these amoumts of constituents could not have been deposited at the Paint Shop Ditch.

Block 2
How reliable is/are the information source/s? _X_ High __ Med __ Low (check one)
Explain the reasoning behind this evaluation.

The fact that the known quantity of hazardous constituents at this unit is near zero is confirmed by the 1990 analytical data[3]. Calculations using a conservative estimate of the amount of materials disposed of at the unit also confirm this fact.

Block 3 Has this INFORMATION been confirmed? _X_ Yes __ No (check one)
If so, describe the confirmation.

The sampling data was confirmed by validation.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

No available information	[ ]		Analytical data	[X]	3
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[X]	4
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[X]	6	Closure Plan, 1990	[X]	2

Block 1: Although the estimate may be decidedly rough, it is necessary to provide some estimate of the quantity of hazardous substance/constituent at this source. If there is no source, then the answer to this question should be 0. (Caution: If there does not appear to be any contaminant present, then the obvious estimate must be 0, but it is unlikely that a source containing this contaminant exists without some quantity of hazardous substance present.) A very precise explanation of HOW the quantity was calculated is essential if an estimate is used.

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.

ESTIMATED SOIL CONCENTRATIONS OF LEAD IN SOIL
AT THE
PAINT SHOP DITCH TRA-02

An estimate of lead concentration in the soil at the Paint Shop Ditch can be made using disposal estimates provided in the Initial Assessment.

Assumptions:

The estimated amount of lead discharged to the ditch is 16.3 kg (36 lbs). This amount was derived by assuming 5 % paint residue in the thinners with a lead content of 3 % by weight[1].

The solidified paint wastes were dispersed throughout the soil by construction activities. The total volume of soil is 259 m^3 as previously calculated for question 6. The bulk density of similar alluvial materials at TRA was determined in 1990[2] to be 1.94 g/cc[6] (1,940 kg/m^3).

Soil Concentration = 16.3 kg / (259 m^3 x 1,940 kg/m^3)

= 3.00E-05 kg/kg or 32.4 mg/kg

This value represents the average increase in the lead concentrations in the soil at the Paint Shop Ditch. It does not account for removal of solidified paint residue by paint shop personnel during the period of paint shop operation.

Question 8. Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

There is no evidence that hazardous constituents are present in elevated concentrations which will cause adverse effect on human health and the environment.

Data from samples collected in 1990 indicate that increased lead, mercury, chromium and zinc concentrations in the soil are near zero as a result of disposal at the paint shop.

VOCs were not detected in soil samples.

PCB concentrations of aroclor 1254 are slightly above the qualitative risk values established for this investigation in accordance with the Track 1 guidance. However, the average PCB concentrations (aroclor 1254 - 0.059 mg/kg, aroclor 1260 - 0.017 mg/kg) are well below the national regulatory cleanup level of 10 mg/kg (40 CFR 671). The maximum PCB concentration of 0.18 mg/kg is also well below this cleanup level. The attached table summarizes the organic data taken from the 1987 effort.

Thallium concentrations are above the qualitative risk values, however, thallium detections are considered false positives. Results shown as exceeding the method detection limit for thallium were analyzed using analytical methods differing from those used to analyze background samples for the 1990 investigation[2]. These background samples were analyzed using furnace AA spectroscopy (EPA method 7041) and the thallium results were obtained from ICP AA spectroscopy (EPA method 6010). The background concentration established for the 1990 investigation is 0.79 mg/kg and should be used since there is no reason to suspect thallium in the waste disposed at the Paint Shop Ditch.

Chromium-VI concentrations are above qualitative risk (below) values for the groundwater pathway. All other pathways for Chromium-VI are ~~above~~ levels of concern. Chromium-VI is not associated with wastes disposed at the Paint Shop Ditch but was used as a conservative measure in qualitatively assessing risk.

The 1990 data did not show evidence of a source. Contaminants associated with paint wastes such as VOCs and metals were not detected or the detections are below levels which pose a threat to human health.

Block 2
How reliable is/are the information source/s? _X_ High __ Med __ Low (check one)
Explain the reasoning behind this evaluation.

Sample data has a high level of reliability.

Block 3 Has this INFORMATION been confirmed? _X_ Yes __ No (check one)
If so, describe the confirmation.

Analytical data was validated.

Block 4 **Sources of Information:**

(check appropriate box/es & number source/s)

No available information	[ ]		Analytical data	[X]	3
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[ ]		Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[ ]		Closure Plan, 1990	[X]	2

Block 1: So far, none of the questions has specifically required an analysis of present conditions. The analysis so far may indicate the concentration levels of the specific contaminant as a result of a spill 20 years ago. Those levels may or may not be relevant today. Does the literature search indicate that the hazardous substance/constituent could be present at the source today? If not, account for the disappearance of the contaminant (e.g. volatilization, etc.).

Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for Block 2. If there are seven different sources of information all indicating the same findings, then the reliability should be 'high' unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the sources indicated in Block 4 with respect to the assessment of Block 2. Re-evaluate the reliability assessment of Block 2 if necessary.

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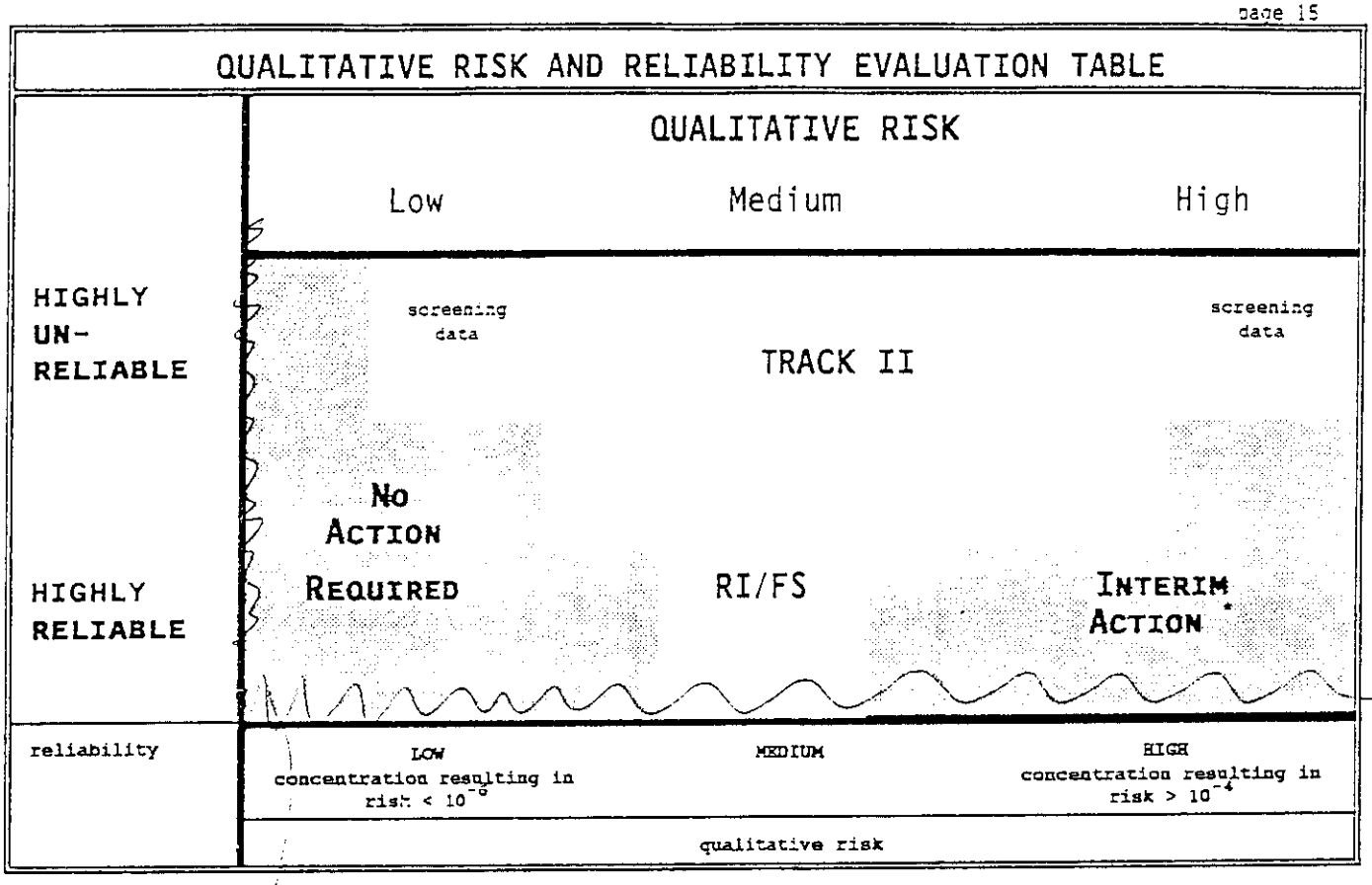
CONTAMINANT WORKSHEET
SITE ID TRA-02, Paint Shop Ditch
PROCESS (Col 1) Soil Disturbances **WASTE** (Col 2) NONE[b]

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/ constituents[a]	Col 7 Risk based concentration mg/kg	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med/Lo)
None	None	None	None	Lo	Hi

a. ND = not detected
DL = detection limit in ppm

b. No wastes or hazardous substance/constituents are associated with the soil disturbances.



* if there exist sufficient data to identify an appropriate remedy

no constituents of concern associated with soil disturbances

Question 1. What are the waste generation process locations and dates of operation associated with this site?

Block 1 Answer:

No wastes have been generated by the soil disturbances. However, the soil disturbances have had an important impact on the waste generated by the paint shop, and so are discussed here. For further information on the paint shop activities, see the set of question sheets prepared for that process.

The paint shop ditch has been excavated on at least four known occasions: in 1975 for the installation of a water line, water line repair in 1987, in 1987 to lay a communications cable, and also in 1987 for sampling purposes. The 1975 water line was laid parallel to the ditch. The exact location of the 1987 water line repair is uncertain, although it is known that a break occurred in the water line at a valve just outside of the paint shop. The exact location of the trench excavated in 1987 for the communication cable is also uncertain. Of the two adjoining trenches associated with the 1987 sampling effort, one was adjacent and parallel to the paint shop driveway and the second trench intersected the first perpendicularly at the ditch culvert.

Block 2 How reliable is/are the information source/s? __High x Med __Low (check one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Although the soil disturbances are discussed in the cited references, sources for the information are not given, and locations of two of the disturbances are not documented any more precisely than just general area.

Block 3 Has this INFORMATION been confirmed? x Yes __No (check one)

IF SO, DESCRIBE THE CONFIRMATION.

The information from the 1987 sampling effort is documented in logbooks the support the summary report cited as a reference.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ]		Analytical data	[ ]	
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering/site drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[x]	1	Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[x]	2, 7			

Question 2. What are the disposal process locations and dates of operation associated with this site?

Block 1 Answer:

Not applicable for soil disturbances - for disposal process locations and dates of operation associated with paint shop activities, refer to the separate set of questions completed for that process.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)

IF SO, DESCRIBE THE CONFIRMATION.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ] _____	Analytical data	[ ] _____
Anecdotal	[ ] _____	Documentation about data	[ ] _____
Historical process data	[ ] _____	Disposal data	[ ] _____
Current process data	[ ] _____	Q.A. data	[ ] _____
Areal photographs	[ ] _____	Safety analysis report	[ ] _____
Engineering/site drawings	[ ] _____	D&D report	[ ] _____
Unusual Occurrence Report	[ ] _____	Initial assessment	[ ] _____
Summary documents	[ ] _____	Well data	[ ] _____
Facility SOPs	[ ] _____	Construction data	[ ] _____
OTHER	[ ] _____		

Question 3. Is there empirical, circumstantial, or other evidence of migration? If so, what is it?

Block 1 Answer:

Not applicable for soil disturbances - for discussion of migration concerns associated with paint shop activities, refer to the separate set of questions completed for that process.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)

IF SO, DESCRIBE THE CONFIRMATION.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ]	_____	Analytical data	[ ]	_____
Anecdotal	[ ]	_____	Documentation about data	[ ]	_____
Historical process data	[ ]	_____	Disposal data	[ ]	_____
Current process data	[ ]	_____	Q.A. data	[ ]	_____
Areal photographs	[ ]	_____	Safety analysis report	[ ]	_____
Engineering/site drawings	[ ]	_____	D&D report	[ ]	_____
Unusual Occurrence Report	[ ]	_____	Initial assessment	[ ]	_____
Summary documents	[ ]	_____	Well data	[ ]	_____
Facility SOPs	[ ]	_____	Construction data	[ ]	_____
OTHER	[ ]	_____			

Question 4. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

Any potential source associated with this site is not related to the soil disturbance processes, but with activities related to paint shop processes. These issues are addressed in a separate set of Decision Documentation Package questions.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Not applicable.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)

IF SO, DESCRIBE THE CONFIRMATION.

Not applicable.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ] _____	Analytical data	[ ] _____
Anecdotal	[ ] _____	Documentation about data	[ ] _____
Historical process data	[ ] _____	Disposal data	[ ] _____
Current process data	[ ] _____	Q.A. data	[ ] _____
Areal photographs	[ ] _____	Safety analysis report	[ ] _____
Engineering/site drawings	[ ] _____	D&D report	[ ] _____
Unusual Occurrence Report	[ ] _____	Initial assessment	[ ] _____
Summary documents	[ ] _____	Well data	[ ] _____
Facility SOPs	[ ] _____	Construction data	[ ] _____
OTHER	[ ] _____		

Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

Although there is no source at this site directly associated with the four known soil disturbances, these disturbances have had an important impact on the pattern of potential contamination from the paint shop process. Each time the area was excavated, soil was temporarily removed, then backfilled into the trenches when work was completed. As a result, potentially contaminated soils were mixed and aerated. Since these soils contained solidified paint residues, these masses were broken up and randomly distributed, creating a scattering of agglomerates throughout the excavation sites. Rather than one hot spot located where paint wastes had been disposed, a much larger area contains randomly distributed paint agglomerates of greatly varying sizes.

Block 2 How reliable is/are the information source/s? x High __Med __Low (check one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Information concerning the visual observation of paint agglomerates is contained in the 1987 sampling effort documents. With exceptions noted as required, standard procedures were followed in the sampling process.

Block 3 Has this INFORMATION been confirmed? x Yes __No (check one)

IF SO, DESCRIBE THE CONFIRMATION.

Laboratory analysis and visual observations confirmed the presence of paint agglomerates. The logbooks and other documented procedures for the sampling effort also support this information.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ]		Analytical data	[ ]	
Anecdotal	[ ]		Documentation about data	[ ]	
Historical process data	[ ]		Disposal data	[ ]	
Current process data	[ ]		Q.A. data	[ ]	
Areal photographs	[ ]		Safety analysis report	[ ]	
Engineering/site drawings	[ ]		D&D report	[ ]	
Unusual Occurrence Report	[ ]		Initial assessment	[ ]	
Summary documents	[x]	1	Well data	[ ]	
Facility SOPs	[ ]		Construction data	[ ]	
OTHER	[x]	2, 7			

Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

Not applicable for soil disturbances - for estimate of the potentially contaminated region associated with paint shop activities, refer to the separate set of questions completed for that process.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)
EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)
IF SO, DESCRIBE THE CONFIRMATION.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ] ____	Analytical data	[ ] ____
Anecdotal	[ ] ____	Documentation about data	[ ] ____
Historical process data	[ ] ____	Disposal data	[ ] ____
Current process data	[ ] ____	Q.A. data	[ ] ____
Aerial photographs	[ ] ____	Safety analysis report	[ ] ____
Engineering/site drawings	[ ] ____	D&D report	[ ] ____
Unusual Occurrence Report	[ ] ____	Initial assessment	[ ] ____
Summary documents	[ ] ____	Well data	[ ] ____
Facility SOPs	[ ] ____	Construction data	[ ] ____
OTHER	[ ] ____		

Question 7. What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

Block 1 Answer:

Not applicable for soil disturbances - for discussion of the estimated quantity of hazardous substance/constituents associated with paint shop activities, refer to the separate set of questions completed for that process.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)
EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)
IF SO, DESCRIBE THE CONFIRMATION.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ] _____	Analytical data	[ ] _____
Anecdotal	[ ] _____	Documentation about data	[ ] _____
Historical process data	[ ] _____	Disposal data	[ ] _____
Current process data	[ ] _____	Q.A. data	[ ] _____
Areal photographs	[ ] _____	Safety analysis report	[ ] _____
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Unusual Occurrence Report	[ ] _____	Initial assessment	[ ] _____
Summary documents	[ ] _____	Well data	[ ] _____
Facility SOPs	[ ] _____	Construction data	[ ] _____
OTHER	[ ] _____		

Question 8. Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

Not applicable for soil disturbances - for discussion of hazardous substance/constituents today associated with paint shop activities, refer to the separate set of questions completed for that process.

Block 2 How reliable is/are the information source/s? __High __Med __Low (check one)
EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Block 3 Has this INFORMATION been confirmed? __Yes __No (check one)
IF SO, DESCRIBE THE CONFIRMATION.

Block 4 **SOURCES OF INFORMATION** (check appropriate box/es & source number from reference list)

No available information	[ ] _____	Analytical data	[ ] _____
Anecdotal	[ ] _____	Documentation about data	[ ] _____
Historical process data	[ ] _____	Disposal data	[ ] _____
Current process data	[ ] _____	Q.A. data	[ ] _____
Areal photographs	[ ] _____	Safety analysis report	[ ] _____
Engineering/site drawings	[ ] _____	D&D report	[ ] _____
Unusual Occurrence Report	[ ] _____	Initial assessment	[ ] _____
Summary documents	[ ] _____	Well data	[ ] _____
Facility SOPs	[ ] _____	Construction data	[ ] _____
OTHER	[ ] _____		

REFERENCES

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